

REMARKS

*Summary of the Amendment*

Upon entry of the above amendment, claims 4 and 17 will have been canceled. Additionally, claims 1-3, 6-9, 11 and 15, 16, 19-22, 24 and 25 will have been amended and claims 27-32 will have been added. Accordingly, claims 1-3, 5-16 and 18-32 will be pending, with claims 1, 11 and 27 being in independent form.

*Summary of the Official Action*

In the Office action, the Examiner rejected claims 1-26 over the applied art of record. By the present amendment and remarks, Applicant submits that the rejections have been overcome, and respectfully requests reconsideration of the outstanding Office Action and allowance of the present application.

*Interview of October 16, 2003*

Applicant appreciates the courtesy extended by Examiner Hug in the interview of October 16, 2003. In that interview, Applicant's representative discussed, among other things, that the applied documents fail to disclose or suggest the combination of features recited in claims 1 and 11. The Examiner disagreed and indicated that the current rejections were proper.

Applicant's representative also discussed, among other things, that the applied

documents fail to disclose or suggest that the forming region of the tissue machine includes a forming roll over which passes the variable zone dewatering wire and another belt, and that the tissue web is subjected to suction before the belt and the variable zone dewatering wire are separated from each other immediately following the forming roll in combination with the other recited features of claims 1 and 11.

Applicant's representative specifically discussed each applied reference and pointed out to the Examiner that these recited features were not disclosed or suggested by any proper combination of the applied documents.

In response, the Examiner agreed to reconsider the rejections if such arguments, explanations and amendments were presented in a response.

Finally, in response to the Examiner providing to Applicant's representative a copy of the English translation of SE '053, Applicant wishes to express its appreciation and requests that the Examiner cite this English translation on the form PTO-892 in the next response.

***Traversal of Rejections Under 35 U.S.C. § 103(a)***

Applicant traverses the rejection of claims 1-4, 6-8, 11, 15-17 and 19-26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,237,644 to HAY et al. in view of the ALBANY reference and U.S. Patent No. 6,203,663 to KAMPS et al.

Applicant also traverses the rejection of claims 1-4, 6-8, 11, 15-17 and 19-26 under 35 U.S.C. § 103(a) as being unpatentable over SE 427 053 in view of the ALBANY reference and U.S. Patent No. 6,203,663 to KAMPS et al.

Applicant additionally also traverses the rejection of claims 9 and 10 under 35 U.S.C. § 103(a) as being unpatentable over either of HAY or SE 427 053 in view of the ALBANY reference and U.S. Patent No. 6,203,663 to KAMPS et al. and further in view of U.S. Patent No. 5,517,714 to KOTITSCHKE.

Applicant additionally traverses the rejection of claims 12-14 under 35 U.S.C. § 103(a) as being unpatentable over either of HAY or SE 427 053 in view of the ALBANY reference and U.S. Patent No. 6,203,663 to KAMPS et al. and further in view of U.S. Patent No. 5,225,042 to EATON et al.

Applicant also traverses the rejection of claims 5 and 18 under 35 U.S.C. § 103(a) as being unpatentable over either of HAY or SE 427 053 in view of the ALBANY reference and U.S. Patent No. 6,203,663 to KAMPS et al. and further in view of U.S. Patent No. 4,144,124 to TURUNEN et al.

The Examiner acknowledges that HAY and SE '053 lack any disclosure with regard to said at least one dewatering belt comprising at least two zones having different wire permeabilities formed by warp and weft threads wherein each at least two zones has at least one dimension of length and width less than 5 mm. However, the Examiner explains that

such dimensions are deemed to be “inherently encompassed by the teachings of the weave pattern.” The Examiner also explains that ALBANY discloses “a typical range of common diameters for threads in a forming fabric.” Finally, the Examiner asserted that KAMPS teaches to form a tissue web with an impression forming fabric. Accordingly, the Examiner concluded that it would have been obvious to modify HAY as taught by ALBANY and KAMPS.

The Examiner also acknowledges that HAY, SE ‘053, ALBANY and KAMPS lack any disclosure with regard to a conditioning/cleaning devices, the recited machine speeds, and a double wire formed. However, the Examiner explains that KOTITSCHKE teaches that conditioning/cleaning devices are conventional, that EATON teaches the recited machine speeds, and that TURUNEN teaches a double wire former. Accordingly, the Examiner concluded that it would have been obvious to modify HAY or SE ‘053 with ALBANY and KAMPS, as taught by KOTITSCHKE, EATON and TURUNEN.

Applicant respectfully traverses each of these rejections and the Examiner’s assertions.

Notwithstanding the Office Action assertions as to what these documents disclose or suggest, Applicant respectfully submits that no proper combination of these documents discloses or suggests, inter alia, a forming region comprising a forming roll, wherein *said at least one dewatering belt and another belt pass over the forming roll and separate from each*

*other immediately following the forming roll, said at least one dewatering belt comprising at least two zones having different wire permeabilities formed by warp and weft threads and each at least two zones having at least one dimension of length and width less than 5 mm, wherein the tissue web is subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll, as recited in independent claim 1, and inter alia, a process for producing a tissue web in a tissue machine, the process comprising forming the tissue web in a forming region of the tissue machine on at least one circulating, continuous dewatering belt comprising at least two zones having different wire permeabilities formed by warp and weft threads, wherein each at least two zones has at least one dimension of length and width of less than 5 mm, wherein said forming region comprises a forming roll, and wherein said at least one dewatering belt and another belt pass over the forming roll and separate from each other immediately following the forming roll, and suctioning the tissue web before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll, as recited in independent claim 11.*

As discussed in the Interview, Applicant does not dispute that HAY relates to a tissue forming fabric with a woven pattern. However, it is clear that this document lacks any disclosure or suggestion with regard to a forming region comprising *a forming roll*. Moreover, it is clear from the Figures that there is no disclosure or suggestion with regard

*to at least one dewatering belt and another belt passing over the forming roll and separating from each other immediately following the forming roll.* Additionally, the Examiner has essentially acknowledged that this document fails to specifically disclose that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm.* Finally, it is clear that HAY is entirely silent with regard to *the tissue web being subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll.*

Nor does Applicant dispute that SE '053 relates to a tissue forming fabric. However, it is apparent that this document similarly lacks any disclosure or suggestion with regard to a forming region comprising *a forming roll.* Moreover, it is clear from the Figures that there is no disclosure or suggestion with regard to *at least one dewatering belt and another belt passing over the forming roll and separating from each other immediately following the forming roll.* Additionally, the Examiner has essentially acknowledged that this document fails to specifically disclose that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm.* Finally, it is clear that SE '053 is entirely silent with regard to *the tissue web being subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately*

*following the forming roll.*

With regard to the ALBANY reference, Applicant notes that this document similarly lacks any disclosure or suggestion with regard to a forming region comprising *a forming roll*. Moreover, it is clear that there is no disclosure or suggestion with regard to *at least one dewatering belt and another belt passing over the forming roll and separating from each other immediately following the forming roll*. Furthermore, Applicant disputes the Examiner's assertion that this document specifically discloses that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm*. Finally, it is clear that ALBANY is entirely silent with regard to *the tissue web being subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll*.

With regard to the KAMPS, Applicant acknowledges that Fig. 5 shows a forming roll 15 and two belts 12 and 13 which separate from each other after the forming roll. However, it is not apparent from the disclosure whether these belts *separate from each other immediately following the forming roll*. Moreover, the Examiner has essentially acknowledged that this document fails to specifically disclose that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width*

*less than 5 mm.* Finally, it is clear that KAMPS is entirely silent with regard to *the tissue web being subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll.* To the contrary, Fig. 5 shows a suction device 30 arranged well downstream of the forming roll and a point of separation of the two belts 12 and 13.

With regard to the KOTITSCHKE, Applicant acknowledges that the figure shows a roll 18 and two belts 11 which separate from each other immediately after the roll 18. However, Applicant submits that the disclosed machine is not a tissue forming machine. Nor has the Examiner demonstrated that the roll 18 is a forming roll. Moreover, the Examiner has essentially acknowledged that this document fails to specifically disclose that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm.* Finally, it is clear that KOTITSCHKE is entirely silent with regard to *a tissue web being subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll.*

With regard to the EATON, Applicant acknowledges that this document relates to forming and dewatering a paper web. However, Applicant submits that the disclosed machine is not a tissue forming machine. Moreover, it is clear from the Figures that there is no disclosure or suggestion with regard to *at least one dewatering belt and another belt*

*passing over the forming roll and separating from each other immediately following the forming roll.* Additionally, the Examiner has essentially acknowledged that this document fails to specifically disclose that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm.* Finally, it is clear that EATON is entirely silent with regard to *a tissue web being subjected to suction before said another belt and said at least one dewatering belt separate from each other immediately following the forming roll.*

With regard to the TURUNEN, Applicant acknowledges that this document relates to a tissue forming machine that includes a forming roll 13 and two belts 11 and 12 which separate from each other immediately following the forming roll. However, Applicant submits that this document fails to specifically disclose that the at least one dewatering belt comprises at least two zones having different wire permeabilities formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm.* To the contrary, the Examiner has identified no disclosure indicating that either of the belts 11 and 12 comprises at least two zones having different wire permeabilities, much less, a belt that is formed by warp and weft threads wherein *each at least two zones have at least one dimension of length and width less than 5 mm.*

Accordingly, Applicant submits that even if these documents were properly combined,

which Applicant submits they cannot be, they would nevertheless lack features which are recited in at least independent claims 1 and 11. Moreover, Applicant submits that each of these documents fails to disclose or suggest the requisite motivation or rationale for combining these documents in the manner asserted by the Examiner. Finally, Applicant submits that ALBANY, KAMPS, KOTITSCHKE, EATON and TURUNEN fail to cure the deficiencies lacking in either HAY or SE '059, and vice versa.

Applicant emphasizes that, in contrast to many of the cited patent documents, the instant invention is not intended or utilized for the purpose of embossing or patterning the forming web. Instead, the recited at least one dewatering belt with zonally different wire permeabilities having the recited dimensions is specially designed to improve web properties such as water absorption capacity, water absorption rate, water retention capacity, specific volume (bulk). *See* Specification, paragraph [0004]. This aspect of the invention is neither disclosed or suggested by SE '053, HAY, or KAMPS, which are specifically relied upon to teach the recited dewatering belt. Applicant further notes that the at least one dewatering belt with zonally different wire permeabilities of the instant invention is provided with small, systematically arranged areas with different wire permeabilities that, when utilized in accordance with the invention, produce a web with constant properties, i.e., uniform properties over the entire web, with regard to the web's usability, i.e., bulk, handfeel, etc. Moreover, as the areas of different permeability in at least one dewatering wire with zonally

different wire permeabilities are small, i.e., the dimensions are less than 5 mm, as discussed in paragraph [0012] of the disclosure. This forms a *nearly homogeneous web*, and not the patterned or textured web formed by SE '053, HAY, or KAMPS.

As was pointed out in Applicant's previous response, by changing a spacing between wires in the weave pattern, it is apparent that the amount of water and/or stock flowing through the wire (or remaining on the wire) would correspondingly change. Thus, it is not unusual that changing a dimension of a known wire would provide different results. While the above-noted change is apparent, Applicant note that not all such changes in dimension provide obvious results. The present invention is one such case.

In other words, the instant inventors sought to improve the above-discussed physical characteristics of the web while producing a nearly homogeneous web, i.e., not patterned or textured. In this regard, while the two zoned embossing wires of SE '053 and HAY were known, the wires were specially intended to create a pattern or texture in the web that the instant inventors sought to avoid. What the inventors found is, by modifying the weave pattern of wires such as HAY to the dimensions recited in the pending claims, the embossing effect was rendered nugatory, i.e., no visually perceptible imprint or pattern is made on the web, but that above-noted physical properties of the web, which were desired by the inventors, were greatly enhanced. Thus, Applicant notes that the instant invention cannot be construed as a mere "change in dimension" because the resulting wire no longer operates in

the manner intended by SE '053 or HAY because the web produced is nearly homogeneous and formed without the pattern or textured intended by the prior art. Moreover, Applicant notes that, as neither SE '053 nor HAY teach or suggest that their specific wires will enhance the physical characteristics of the web which result from the instant invention, the present invention is not rendered obvious.

Further, while the Examiner has also cited ALBANY and KAMPS with regards to the dewatering belt features, Applicant submits that neither of these documents provide any teaching or suggestion for modifying the dimensions of the weave pattern of SE '053 or HAY in any manner that would render the instant invention unpatentable. In particular, Applicant notes that, as it is the express intention of both SE '053 and HAY to emboss the forming web, neither document provides any teaching or suggestion of reducing the weave pattern dimensions to an extent that a nearly homogeneous web is produced. Further, Applicant submits that neither ALBANY nor KAMPS provides any teaching or suggestion of modifying SE '053 or HAY in any manner that would be contradictory to their intention of embossing a forming web.

Thus, while the Examiner has cited ALBANY as disclosing common yarn diameters used in paper machine cloth, the Examiner has provided no evidence that this yarn of ALBANY corresponds to the threads utilized in either SE '053 or HAY nor has he provided any specific teaching that using the weaving the yarn of ALBANY in manner set forth in SE

‘053 or HAY would result in an embossing wire that operates in the manner intended by the primary references. Moreover, Applicant notes that, even assuming, *arguendo*, that all of the Examiner’s assertions are true (which Applicant submits they are not) and the yarn of ALBANY woven in the manner described in SE ‘053 or HAY results in a wire having the recited dimensions, Applicant submits that, as discussed above, the pattern dimensions would be too small to form the desired visual imprints or embossing on the forming web. As such, Applicant submits that the asserted modification would render both SE ‘053 and HAY incapable of operating in their intended manners, which renders the asserted combination improper.

Applicant reminds the Examiner that, to be obvious, the Examiner must show that the art teaches or suggests the motivation or rationale for combining the art in the manner asserted by the Examiner. In other words, the reasons for modifying or combining the art of record should be gleaned from the teachings in the art, and should not merely be a reconstruction of Applicant’s claims with the art of record. In the instant rejection, as the asserted modification of the wire of SE ‘053 and HAY results in a wire that is no longer able to operate in its intended manner, i.e., no embossing would occur, Applicant submits that the combination or modification in view of ALBANY and/or KAMPS is not obvious, and, therefore, is improper and should be withdrawn.

Finally, Because KOTITSCHKE, EATON and TURUNEN are completely silent with

regard to the recited dewatering belt, they cannot cure the deficiencies of SE '053, HAY, ALBANY and KAMPS.

Applicant reminds the Examiner of the guidelines identified in M.P.E.P section 2141 which state that "[i]n determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

As this section clearly indicates, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

Moreover, it has been legally established that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) .... Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do

so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Additionally, it has been held that “[a] statement that modifications of the prior art to meet the claimed invention would have been ‘well within the ordinary skill of the art at the time the claimed invention was made’ ” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).”

Thus, Applicant submits that there is no motivation or rationale disclosed or suggested in the art to modify the documents in the manner asserted by the Examiner. Nor does the Examiner’s opinion provide a proper basis for making such a modification or combination, in the manner suggested by the Examiner. Therefore, Applicant submits that the invention as recited in at least independent claims 1 and 11 is not rendered obvious by any reasonable inspection of the disclosures of the applied prior art.

Finally, Applicant submits that claims 2, 3, 5-10, 12-16 and 18-26 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular,

Applicant submits that no proper combination of the above-noted documents discloses or suggests: that said at least one dewatering belt comprises a dewatering wire and is provided in an initial dewatering region as recited in claim 2; that wherein the forming roll forms part of a former wherein said another belt comprises another circulating, continuous dewatering belt, wherein said at least one dewatering belt and said another dewatering belt are arranged to converge to form a stock inlet nip, and wherein said at least one dewatering belt is an outer belt, which does not come into contact with said forming roll, and further comprising a suction device arranged at a separation point, wherein the tissue web is transferred from said at least one dewatering belt to said another dewatering belt following the separation point as recited in claim 3, that said former comprises a double wire former as recited in claim 5; that said former comprises a crescent former, and wherein said another belt is a felt belt as recited in claim 6; that said at least one dewatering belt comprises a woven material formed of warp and weft threads as recited in claim 7; that said at least two zones of different wire permeabilities are formed by weaving threads of at least one of different diameter and different weaving pattern as recited in claim 8; that the machine further comprises a conditioning device assigned to said at least one dewatering belt as recited in claim 9; that said conditioning device comprises a wire cleaning device as recited in claim 10; that process further comprises performing dewatering at a machine speed that is greater than approximately 1300 m/min as recited in claim 12; that the dewatering is performed at greater

than approximately 1500 m/min as recited in claim 13; that the dewatering is performed at greater than approximately 1800 m/min as recited in claim 14; that the process further comprises using the at least one dewatering belt in an initial dewatering region as recited in claim 15; that wherein the forming roll forms part of a former wherein said another belt and said at least one dewatering belt are arranged to converge to form a stock inlet nip, and wherein said at least one dewatering belt is an outer belt, which does not come into contact with the forming belt, and wherein the machine further comprises a suction device arranged at a separation point and wherein the method further comprises transferring the tissue web from said at least one dewatering belt to said another belt following the separation point as recited in claim 16; that the former comprises a double wire former as recited in claim 18; that the former comprises a crescent former, and wherein said another belt is a felt belt as recited in claim 19; that said at least one dewatering belt comprises a woven material formed of warp and weft threads as recited in claim 20; that the at least two zones of different wire permeabilities are formed by weaving threads comprising at least one of different diameter and different weaving pattern as recited in claim 21; that said at least one dewatering belt comprises a wire and is used in a region in which a dry content of the tissue web is less than approximately 20% as recited in claim 22; that the dry content of the tissue web is less than approximately 12% as recited in claim 23; that said at least one dewatering belt is used in an initial sheet forming region at a dry content less than approximately 6% as recited in claim

24; that said at least two zones having different wire permeabilities are structured to produce different dewatering speeds as recited in claim 25; and that dewatering speeds in the at least two zones are different as recited in claim 26.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejections of the above-noted claims under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

***New Claims are also Allowable***

Applicant submits that the new claims are also allowable over the applied art of record. In particular, Applicant submits that claims 27-32 recite a combination of features which are not disclosed or suggested by the Applied art of record.

Accordingly, Applicant respectfully requests consideration of these claims and further request that the above-noted claims be indicated as allowable.

**CONCLUSION**

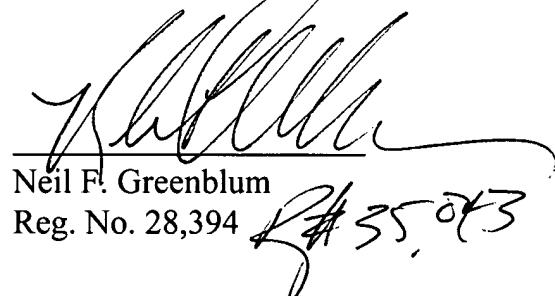
Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 112, 102 and 103 and respectfully requests the Examiner to indicate allowance of each and every pending claim of the present invention.

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicant's invention, as recited in each of the pending claims. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Commissioner is hereby authorized to charge any fees necessary for consideration of this amendment to deposit account No. 19-0089.

Respectfully submitted,  
Thomas Thor   SCHERB et al.



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